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**SSERC Risk Assessment** (revised version March 2018)

(based on HSE’s INDG 163 ‘Risk assessment - A brief guide to controlling risks in the workplace’)

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| Activity assessed | Int2 PPA3-3 - Reactions of Metals with Oxygen |
| *Date of assessment* | 8th July 2022 |
| *Date of review (****Step 5****)* |  |
| *School* |  |
| *Department* |  |

| Step 1 | Step 2 | Step 3 | Step 4 | | |
| --- | --- | --- | --- | --- | --- |
| *List Significant hazards here:* | *Who might be harmed and how?* | *What are you already doing?*  *What further action is needed?* | *Actions* | | |
| *by whom?* | *Due date* | *Done* |
| Potassium manganate VII is a powerful oxidiser and is harmful if swallowed | Pupils by fire | Keep away from combustible material.  In particular ensure the test tube is near horizontal enough that no pieces of metal can fall into the heated manganate VII.  For this reason, do not use metal powder. |  |  |  |
| Magnesium is flammable | Pupils by fire | Keep away from sources of ignition. |  |  |  |
| Some samples of mineral wools and especially Rocksil wool contain oxidisable impurities which can react vigorously with potassium permanganate | Pupils by fire | Technician check with suppliers before carrying out the experiment. If in doubt, roast the sample beforehand to oxidise the impurities. |  |  |  |

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| **Description of activity:**  Potassium manganate VII is put at the bottom of a test tube (to generate oxygen). A plug of mineral wool is pushed part way down. The test tube is clamped almost horizontally and pieces of metal are placed in it above the plug of mineral wool.  The metal is heated and then the manganate VII to produce oxygen. Continue heating both parts of the tube. The metals should burn vigorously. |

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| **Additional comments:** |